March 4, 1930. A. G. MACDONELL 1,749,292

EXTRACTOR BASKET

Filed July 24, 1929

Fig. 1.

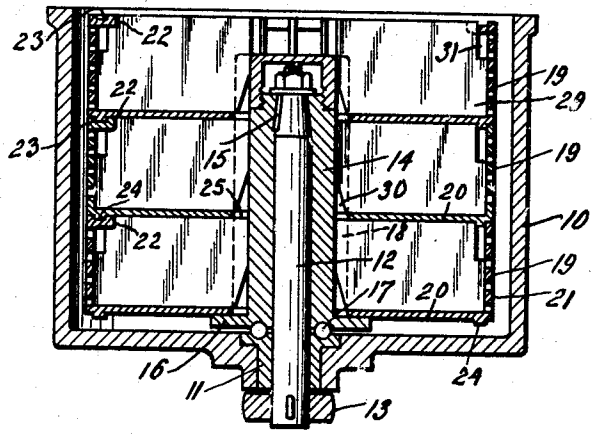


Fig. 2.

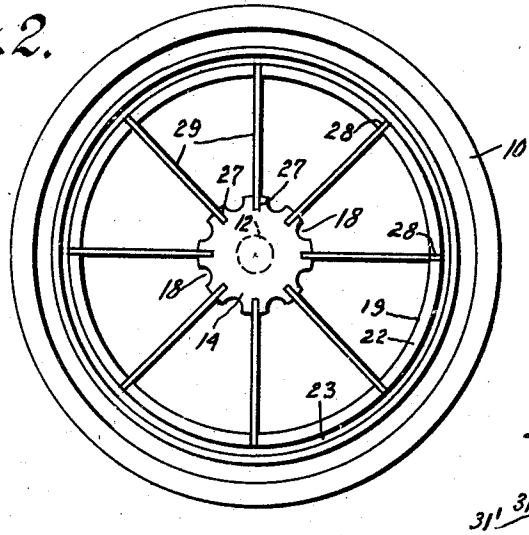


Fig. 5.

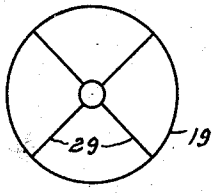


Fig. 4

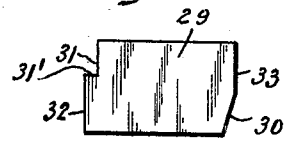


Fig. 3.

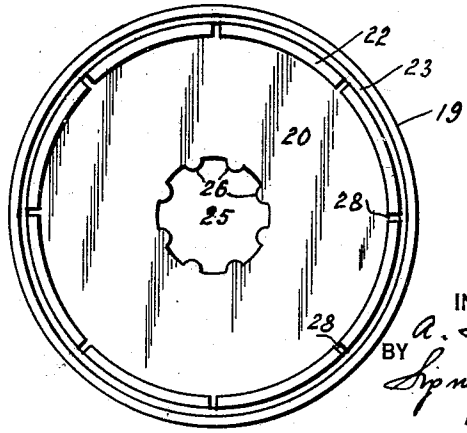
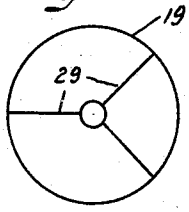


Fig. 6.



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UNITED STATES PATENT OFFICE

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EXTRACTOR BASKET

Application filed July 24, 1929. Serial No. 380,572.

The present invention relates to improvements in centrifugal driers or extractors, and more particularly to devices of this type which are employed in laundries for expelling moisture from the wash, that is to say from the clothes or fabrics that have been previously treated in a washing-machine or otherwise cleansed. The invention pertains more particularly to the baskets, forming part of such extractors.

In these extractors, the wash is placed into the basket of the machine, said basket being rotated or revolved at a high velocity, whereby the moisture contained in the wash is partially expelled therefrom by centrifugal force. In laundering flat pieces of wash, the following is the usual practice in laundries: Flat pieces are first marked, for instance on a marking machine, with the customer's name, initials, or other identification marks, and are then dropped into a container with the flat pieces belonging to many other customers. When the aggregate is large enough to fill a washing machine, or one or more pockets or compartments of a large wash wheel, the wash is placed thereinto, and treated in the usual manner therein. After the washing operation, the wash, belonging to many customers, is placed into an extractor for expelling the moisture therefrom. Thereafter the wash is finished on mangles or ironing machines, after which each customer's pieces are sorted out.

Inasmuch as these extractor baskets are of the single compartment type, the clothes or fabrics are liable to be injured by stretching and tearing due to the centrifugal action, unless the clothes are carefully folded and packed. Also, the clothes and fabrics are apt to form a solid mass as they are being forced against the wall of the basket by centrifugal force, and are easily torn when being separated.

The main object of the present invention is to provide an extractor basket comprising a plurality of removable receptacles or containers, each of which is adapted to be divided into a number of compartments of varying sizes, into each of which the individual wash of a family may be placed. By the use of this construction not only are the objectionable features of the single-compartment extractor baskets overcome but the marking of the washes of the several customers of a laundry is entirely done away with. For this purpose, obviously, the wash of each customer is placed, without markings, into a separate pocket of a wash wheel, the larger types of which contain as much as sixteen or more pockets.

Another object of the invention is to so design these receptacles that they form a nest, the elements of which are superimposed, each being provided with means for readily removing the same from the extractor housing.

A further object of the invention is to so shape an element of the extractor housing and the said receptacles, that the latter are adapted to rotate together, as a unit.

A still further object of the invention is to construct an extractor basket wherein the clothes are prevented from forming a solid mass.

Still a further object of the invention is to provide a basket of the type above described which is simple in construction, durable in use and capable of manufacture on a commercial scale, or in other words one which is not so difficult to make as to be beyond the reasonable cost of such a contrivance.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a central vertical section taken through an extractor constructed in accordance with the present invention; Fig. 2 is a top plan view thereof; Fig. 3 is a top plan

view of an individual receptacle, constituting part of the extractor basket; Fig. 4 is a side elevation of one of the partitions for dividing the said receptacle into more than one compartment; and Figs. 5 and 6 are diagrammatic views of an individual receptacle, showing compartments of different sizes.

In the drawings the numeral 10 indicates the stationary housing of an extractor, mounted on a stand or base, not shown. This housing is of cylindrical configuration and is provided on its bottom with a bearing 11 of any suitable construction, in which is rotatably mounted a vertically extending basket spindle 12. The spindle projects through the bottom of the housing and has keyed or otherwise attached to it below the said bottom a pulley 13, over which runs a belt, not shown, driven by a pulley from a suitable transmission or prime mover. Within the housing is drawn over the said spindle a tubular body 14, fixed to the said shaft, for instance by a key 15. This body is preferably of substantial weight and thereby serves to balance the basket of the extractor in case the material to be treated is unevenly divided therein. The tubular body is provided at its lower end with a flange 16, forming a support for the basket hereinafter to be described. Between the said flange and the bearing 11 is inserted a plurality of balls 17, whereby a step bearing is formed, the balls serving to reduce friction between the body 14 and the bearing 11. The body 14 is provided in its outer surface with a plurality of longitudinally extending, parallel and, preferably, equidistantly spaced grooves 18, for a purpose hereinafter to be described. These grooves extend throughout the length of the said tubular body, that is to say from the flange 16 up to the top thereof.

Into the housing 10 is fitted a plurality of receptacles 19, each comprising a bottom 20 from which rises a cylindrical, perforated vertical wall 21, which is provided at its top edge with an inwardly extending flange 22. This flange has formed in its upper horizontal face an annular groove 23, in which is adapted to be seated a similarly shaped rib 24 on the underface of the bottom of the next upper receptacle in the series. The bottom 20 of each receptacle 19 is centrally provided with an opening 25, of a size to accommodate the tubular body 14, and into each opening extends a plurality of projections 26, fitting the grooves 18 in the tubular body 14, whereby these receptacles rotate with the said tubular body.

In the outer face of the tubular body, and between the grooves 18, is provided a plurality of longitudinally extending, parallel and, preferably, equidistantly spaced kerfs 27, running radially and being adapted to be in alignment with notches 28 in the flanges 22 of the receptacles 19. These notches extend radially in said flanges from the inner free edges of the latter to the annular grooves 23 therein, as clearly appears from Figs. 2 and 3 of the drawings.

A plurality of these receptacles is adapted to be placed, one on top of another, into the housing 10, the lowermost of the group resting on the flange 16 of the body 14. When so placed into the housing, the annular rib 24 on the bottom of each receptacle is seated in the annular groove 23 in the flange 22 of the receptacle next below. By reason of the corresponding configuration of the grooves 18 in the tubular body and the projections 26 on the bottom of each receptacle, the kerfs 27 in the said tubular body are in alignment with the notches 28 in the flanges of the said receptacles.

Each receptacle is adapted to be divided into a plurality of compartments by vertical radially extending partitions 29, which are adapted to be seated in the said kerfs and the notches 28 in alignment therewith. That vertical edge of each partition, which is to be seated in a kerf, is cut off at an acute angle adjacent the lower longitudinal edge thereof, as indicated at 30. The opposite vertical edge of each partition has a cut-off portion 31 adjacent the upper longitudinal edge thereof (Fig. 4). The object of this arrangement is to permit of proper insertion of the partitions into the receptacles, and to lock the same thereto when the wash is removed from the compartments into which it is divided by the said partitions.

In Fig. 2 of the drawings eight partitions are employed, dividing the receptacle into eight compartments. It is, however, obvious that any other number of partitions may be used, as appears for instance from Figs. 5 and 6 of the drawings, and also that these partitions may be spaced equidistantly, as in Figs. 2 and 5 of the drawings, or at varying distances as shown in Fig. 6 of the drawings. Consequently, the sizes of the compartments in each receptacle may be selected according to the requirements, that is to say according to the volume of the wash to be placed into each compartment.

In use, first one receptacle is placed into the housing 10 so as to rest on the flange 16, above referred to. This receptacle is then divided by partitions 29 into compartments of the required size. In order to insert a partition into a receptacle, the said partition is tilted and its outer vertical edge 32 engaged with a notch 28 in the flange 22 of the receptacle, while its inner vertical edge 33 is seated in a kerf 27 in alignment with said notch. The partition is then, in tilted position, shifted downwards into the receptacle until the horizontal edge 31′ of the cut-off portion 31 is brought below the said flange. Thereafter the partition is tilted downwards until its longitudinal edges are parallel to

the bottom of the receptacle, and then shifted downwards to bring the partition onto the said bottom. It is obvious that, in disengaging a partition from a receptacle, the operations must be performed in a reverse order. Once a partition is properly seated in a receptacle, it is locked therein against accidental disengagement, that is to say against removal when the clothes are taken out from a receptacle. After the receptacle has been divided into compartments, each compartment is filled with the wash of an individual customer and a proper identification means placed into the compartment. The next receptacle is then placed on top of the lowermost in the series, divided into compartments and filled. This is repeated until the housing is completely filled with receptacles. It is obvious that, while in the case illustrated in Fig. 1 of the drawings three receptacles have been shown, any other number may be employed without departing from the invention.

No great care is required when filling the compartments with wash because of the comparatively small sizes thereof. Time is thus saved. When rotation is imparted to the spindle 12, the receptacles, constituting the basket of the machine, with the wash therein rotate with the spindle, whereby the moisture is expelled from the wash by centrifugal force, said moisture leaving the receptacles through the perforations therein.

Inasmuch as the receptacles divide the basket horizontally into a plurality of compartments and each receptacle is also divided vertically into a number of compartments, the wash is less apt to form a solid mass, in contradistinction to the baskets heretofore in use in which the entire load from top to bottom is apt to mingle and be packed into a solid mass. Therefore, not only is time and labor saved in removing the wash from the basket, but the clothes are saved from wear and tear. Furthermore, due to dividing the basket into a plurality of compartments, the wash is very little stretched and has very little chance to tear by reason of being forced by centrifugal force toward the cylindrical wall of the basket.

After the moisture has been removed from the clothes to the desired degree, the receptacles are taken out from the housing. The wash is then removed from each compartment and kept separate so that no sorting is necessary as in baskets heretofore in use.

The receptacles may be removed from the housing by a hoist or similar contrivance, the cable of which has at its free end two branches, each of which carries a hook, adapted to engage the flange of a receptacle, in removing the latter from the housing, at diametrically opposite portions of the flange. Obviously, each receptacle may so be removed from the housing beginning with the topmost of the stack.

It is obvious that, while herein receptacles of specific configurations have been described and specific means for dividing the same into a plurality of compartments has been disclosed, any other means may be employed without departing from the invention which lies mainly in the provision of a basket which is horizontally and vertically divided into a plurality of compartments of variable sizes.

Attention is also called to the fact that, while herein specific means have been shown for causing the receptacles to rotate with the spindle 12, any other means may be employed, without departing from the invention.

What I claim is:

1. A centrifugal drier including a stationary housing, a basket spindle arranged to rotate in said housing, a plurality of foraminated receptacles fitted into said housing and placed one on top of the other, and coacting means on said receptacles and said spindle for causing the same to rotate together.

2. A centrifugal drier according to claim 1, comprising means for dividing each receptacle into compartments of variable sizes.

3. A centrifugal drier according to claim 1, comprising vertical partitions in each receptacle for dividing the same into a plurality of compartments of variable sizes.

4. A centrifugal drier according to claim 1, comprising means for dividing each receptacle into compartments.

5. A centrifugal drier according to claim 1, comprising a plurality of vertical partitions in each receptacle for dividing the same into a plurality of compartments.

6. A centrifugal drier including a stationary housing, a basket spindle arranged to rotate in said housing, a plurality of foraminated receptacles fitted into said housing and placed one on top of the other, coacting means on said receptacles and said spindle for causing the same to rotate together, vertical partitions in each receptacle dividing the same into a plurality of compartments, and means on each receptacle for varying at will the number of partitions therein.

7. A centrifugal drier including a stationary housing, a basket spindle arranged to rotate in said housing, a plurality of foraminated receptacles fitting into said housing and placed one on top of the other, coacting means on said receptacles and said spindle for causing the same to rotate together, vertical partitions in each receptacle for dividing the same into a plurality of compartments, and means for maintaining the partitions in each receptacle in adjusted relation to one another, whereby the sizes of the compartments therein may be varied.

8. A centrifugal drier including a stationary housing, a basket spindle arranged to rotate in said housing provided with longitudinal grooves, a plurality of foraminated

receptacles fitted into said housing and placed on top of one another, the bottom of each receptacle being provided with an aperture through which said spindle extends and each aperture having projections adapted to be seated in the grooves in said spindle, whereby said receptacles and said spindle are caused to rotate together.

Signed at Philadelphia, in the county of Philadelphia, and State of Pennsylvania, this 2d day of July, A. D. 1929.

ALLAN G. MACDONELL.